

WHAT IS CLAIMED IS:

1. An endonuclease enzyme which is secreted from immune cell and recognizes bacterial DNA as foreign agent and processes it to produce about 10 bp single-stranded oligonucleotide including CpG motif which is involved in immune response.

2. The endonuclease enzyme according to claim 1 wherein immune cell includes human B lymphoblastic IM9 cell line or 12-O-tetradecanoylphorbol 13-acetate-treated U937 cell line.

3. The endonuclease enzyme according to claims 1 or 2 which has molecular weight of 72.4 kD by SDS-PAGE.

4. The endonuclease enzyme according to claims 1 or 2 which shows Mg^{2+} -dependent enzyme activity.

5. The endonuclease enzyme according to claims 1 or 2 which has optimal pH of 6.6 to 7.6.

6. The endonuclease enzyme according to claims 1 or 2 which the mobility distance of the enzyme activity by native-PAGE is apparently distinct from that of Dnase I.

7. A process for producing endonuclease of claim 1 which comprises culturing human B-lymphoblastic IM9 cell line or TPA-treated myelogenous U937 cell line on an appropriate medium to produce the said endonuclease and isolating the said endonuclease from the cell lysate or the culture medium.

8. An immune adjuvant comprising about 10 bp single-stranded oligonucleotide having CpG motif produced by treatment of bacterial DNA by endonuclease of claim 1.

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